

pt. 5a.  
pt. 5a.

# B.C. REPORT ON BOILERS.

Inc. Rpt  
No. 8564

Received at London Office 18 JUN 1951

Date of writing Report 24th April 1951 When handed in at Local Office 24th April 1951 Port of Montreal, P. Q.

No. in Survey held at Kingston, Ont. Date, First Survey 1st March, Last Survey 16th April, 1951

8270 on the S. S. "ELGIN" (Number of Visits 5) Tons { Gross 1906 Net 1123

built at Newcastle-on-Tyne By whom built Swan, Hunter & Wigham Richardson Ltd. Yard No. - When built 1923 - 4

engines made at Newcastle-on-Tyne By whom made Swan, Hunter & Wigham Richardson Ltd. Engine No. - When made 1923 - 4

Boiler made at Collingwood By whom made Collingwood Shipyards Limited Boiler No. 244 When made 1941 - 2

nominal Horse Power 210 Owners Canada Steamship Lines Ltd. Port belonging to Montreal

## MULTITUBULAR BOILERS - MAIN, ~~AUXILIARY OR DONKEY~~

Manufacturers of Steel Boiler constructed under British Corporation Survey 1941 - 2 (Letter for Record S)

Total Heating Surface of Boilers 3575 square feet Of Superheaters None

Number for Register Book 3575 Is forced draught fitted Yes Coal or Oil fired Coal

Name and Description of Boilers One cylindrical multitubular Working Pressure 225 lbs/sq. in

Tested by hydraulic pressure to 387 lbs. Date of test 28/2/41 No. of Certificate 5629 Can each boiler be worked separately -

Area of Firegrate in each Boiler 7250 sq. ft. No. and Description of safety valves to each boiler Twin 2 1/2" diameter High Left.

Number of each set of valves per boiler { per Rule 9.5 as fitted 11.88 Pressure to which they are adjusted Are they fitted with easing gear Yes

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Minimum distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

Minimum distance between shell of boiler and tank top plating 24 Is the bottom of the boiler insulated No

Minimum internal dia. of boilers 16'-6" Length 12'-6" Shell plates: Material O.H.S. Tensile strength 30 to 34

How welded, state name of welding Firm None Have all the requirements of the Rules for Class I vessels

Complied with - Thickness 1-9/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double inter -

Types of seams Double Butt Straps, Treble Diameter of rivet holes in { circ. seams 1 1/8" long seams 1-5/8" Pitch of rivets { 4" 11"

Percentage of strength of circ. end seams { plate 62.5% rivets 67.7% Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate 85.2% rivets 86.8% combined 87.76%

Thickness of butt straps { outer 1 3/16" inner 1 5/16" No. and Description of Furnaces in each Boiler 3 "Deighton" Section Furnaces

Material O.H.S. Tensile strength 26 to 30 Smallest outside diameter 4'-0 1/2"

Thickness of plain part { top 9 11/16" bottom 9 11/16" Thickness of plates 3/4" Description of longitudinal joint Welded

Number of stiffening rings on furnace or c.c. bottom -

Stays in steam space: Material O.H.S. Tensile strength 26 to 30 Thickness 1 7/16" Pitch of stays 22 1/2" and 18-5/8"

Stays secured Nuts and washers inside and outside.

Material { front O.H.S. back O.H.S. Tensile strength { 26 to 30 Thickness { 15/16" 13/16"

Thickness of stay tubes in nests 7 1/2" x 9 3/8" Pitch across wide water spaces 7 1/2" x 13 1/2"

Combustion chamber tops: Material O.H.S. Tensile strength 28 to 32 Depth and thickness of girder 10 3/8" x 15/16" Two Length as per Rule 3'-0 5/16" Distance apart 10 1/4" No. and pitch of stays 3 at 8 5/8"

Combustion chamber plates: Material O.H.S. Tensile strength 26 to 30 Thickness: Sides 25/32" Back 11/16" Top 25/32" Bottom 1"

Stays to ditto: Sides 8-5/8" x 10 1/2" Back 8 1/2" x 8" Top 8-5/8" x 10 1/2" Are stays fitted with nuts or riveted over Nuts

Stays at bottom: Material O.H.S. Tensile strength 26 to 30 Thickness 15/16" Lower back plate: Material O.H.S. Tensile strength 26 to 30 Thickness 1"

Stays at wide water space 15" x 8" Are stays fitted with nuts or riveted over Nuts

Material O.H.S. Tensile strength 28 to 32

Thickness of body of stay 3 1/2" No. of threads per inch 6

Stays: Material O.H.S. Tensile strength 26 to 30

At turned off part - No. of threads per inch 9

Over threads 2-1/8", 2", 1-7/8" & 1 1/2"



Are the stays drilled at the outer ends No

Margin stays: Diameter At turned off part  
or  
Over threads 2-1/8", 2" and 1-7/8"

No. of threads per inch 9

Tubes: Material O.H.S. External diameter Plain 2 1/8" Thickness 0.160" No. of threads per inch 9  
Stay 3 1/4" 5/16" to 7/16"

Pitch of tubes 3 3/4" x 3 3/4" 1-9/16" 10 1/2" Manhole compensation: Size of opening in shell plate 16 1/2" x 20 1/2" Section of compensating ring 3 1/4" No. of rivets and diameter of rivet holes 36 at 1 1/2"

Outer row rivet pitch at ends 11" Depth of flange if manhole flanged 3 1/4" Steam Dome: Material -

Tensile strength - Thickness of shell - Description of longitudinal joint -

Diameter of rivet holes - Pitch of rivets - Percentage of strength of joint - Plate -  
Rivets -

Internal diameter - Thickness of crown - No. and diameter of stays - Inner radius of crown -

How connected to shell - Size of doubling plate under dome - Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell -

Type of Superheater - Manufacturers of - Tubes - Steel forgings - Steel castings - Internal diameter and thickness of tubes -

Number of elements - Material of tubes - Tensile strength - Thickness - Can the superheater be shut off and the boiler be worked separately - Is a safety valve fitted to every part of the superheater which can be shut off from the boiler -

Area of each safety valve - Are the safety valves fitted with easing gear - Hydraulic test pressure: -

Pressure to which the safety valves are adjusted - tubes - forgings and castings - and after assembly in place - Are drain cocks or valves fitted to free the superheater from water where necessary -

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description, Yes

Manufacturer -

Are the approved plans of boiler and superheater forwarded herewith Yes  
(If not state date of approval.)

Dates of Survey while building During progress of work in shops - -  
During erection on board vessel - - - 1951 March 1, 20, April 6, 10, 16. Total No. of visits 5

Is this Boiler a duplicate of a previous case - If so, state Vessel's name and Report No. -

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The above boiler was removed from the R.C.N. Corvette "MOOSEJAW", Collingwood Shipyard Ltd. Hull No. 94 and was constructed under Special Survey by British Corporation and installed in the S.S. "ELGIN" in place of the two old boilers.

The boiler was examined internally and externally together with its mountings and all found in good condition

The boiler was subjected to a hydrostatic test of 270 lbs/sq. inch and found tight.

The safety valves of the boiler were adjusted under steam at 180 lbs./sq. inch and a satisfactory accumulation test was carried out.

Copy of construction test certificate attached.

Stamp mark on boiler:- B.C. TEST, No. 5629, T.P. 387 lbs., W.P. 225 lbs. L.D.M. 28/2/41.

Survey Fee ... Please See When applied for 19  
Travelling Expenses (if any) ... Int. Rpt. When received 19  
8565 for  
Installation Fee

L. M. Mathew  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute THURS 28 JUN 1951

Assigned See int 8565

